

Sequence Listing

<110> Genentech, Inc.
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 Wood, William I.

<120> COMPOUNDS, COMPOSITIONS AND METHODS FOR THE TREATMENT
 OF DISEASES CHARACTERIZED BY A33- RELATED ANTIGENS

<130> P1216R1PCT

<140> US 09/254,465
 <141> 1999-03-05

<150> PCT/US98/24855
 <151> 1998-11-20

<150> US 60/066,364
 <151> 1997-11-21

<150> US 60/078,936
 <151> 1998-03-20

<150> PCT/US98/19437
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 Val Lys Leu Ser Cys Ala Tyr Ser Gly Phe Ser Ser Pro Arg Val
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 Glu Trp Lys Phe Asp Gln Gly Asp Thr Thr Arg Leu Val Cys Tyr
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 Asn Asn Lys Ile Thr Ala Ser Tyr Glu Asp Arg Val Thr Phe Leu
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Glu	Val	Lys	Val	Lys	Leu	Ile	Val	Leu	Val	Pro	Pro	Ser	Lys	Pro	125	130	135
Thr	Val	Asn	Ile	Pro	Ser	Ser	Ala	Thr	Ile	Gly	Asn	Arg	Ala	Val	140	145	150
Leu	Thr	Cys	Ser	Glu	Gln	Asp	Gly	Ser	Pro	Pro	Ser	Glu	Tyr	Thr	155	160	165
Trp	Phe	Lys	Asp	Gly	Ile	Val	Met	Pro	Thr	Asn	Pro	Lys	Ser	Thr	170	175	180
Arg	Ala	Phe	Ser	Asn	Ser	Ser	Tyr	Val	Leu	Asn	Pro	Thr	Thr	Gly	185	190	195
Glu	Leu	Val	Phe	Asp	Pro	Leu	Ser	Ala	Ser	Asp	Thr	Gly	Glu	Tyr	200	205	210
Ser	Cys	Glu	Ala	Arg	Asn	Gly	Tyr	Gly	Thr	Pro	Met	Thr	Ser	Asn	215	220	225
Ala	Val	Arg	Met	Glu	Ala	Val	Glu	Arg	Asn	Val	Gly	Val	Ile	Val	230	235	240
Ala	Ala	Val	Leu	Val	Thr	Leu	Ile	Leu	Leu	Gly	Ile	Leu	Val	Phe	245	250	255
Gly	Ile	Trp	Phe	Ala	Tyr	Ser	Arg	Gly	His	Phe	Asp	Arg	Thr	Lys	260	265	270
Lys	Gly	Thr	Ser	Ser	Lys	Lys	Val	Ile	Tyr	Ser	Gln	Pro	Ser	Ala	275	280	285
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Lys	Val	Pro	Gly	Asp	Val	Ser	Leu	Gln	Leu	Ser	Thr	Leu	Glu	Met	95	100	105	

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Cys	Thr	Ala	Lys	Gly	Gln	Val	Gly	Ser	Glu	Gln	His	Ser	Asp	Ile
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Val	Lys	Phe	Val	Val	Lys	Asp	Ser	Ser	Lys	Leu	Leu	Lys	Thr	Lys
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Thr	Glu	Ala	Pro	Thr	Thr	Met	Thr	Tyr	Pro	Leu	Lys	Ala	Thr	Ser
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Thr	Val	Lys	Gln	Ser	Trp	Asp	Trp	Thr	Thr	Asp	Met	Asp	Gly	Tyr
				260					265					270
Leu	Gly	Glu	Thr	Ser	Ala	Gly	Pro	Gly	Lys	Ser	Leu	Pro	Val	Phe
				275					280					285
Ala	Ile	Ile	Leu	Ile	Ile	Ser	Leu	Cys	Cys	Met	Val	Val	Phe	Thr
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Met	Ala	Tyr	Ile	Met	Leu	Cys	Arg	Lys	Thr	Ser	Gln	Gln	Glu	His
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<213> Homo sapiens

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Ile	Tyr	Cys	Cys	Cys	Cys	Arg	Gly	Lys	Asp	Asp	Asn	Thr	Glu	Asp	260	265	270	
Lys	Glu	Asp	Ala	Arg	Pro	Asn	Arg	Glu	Ala	Tyr	Glu	Glu	Pro	Pro	275	280	285	
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<211> 2181

<212> DNA

<213> Homo sapiens

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<211> 312

<212> PRT

<213> Homo sapiens

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Ala	Pro	Lys	Asp	Gln	Gln	Val	Val	Thr	Ala	Val	Glu	Tyr	Gln	Glu
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Ala	Ile	Leu	Ala	Cys	Lys	Thr	Pro	Lys	Lys	Thr	Val	Ser	Ser	Arg
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Leu	Glu	Trp	Lys	Lys	Leu	Gly	Arg	Ser	Val	Ser	Phe	Val	Tyr	Tyr
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Gln	Gln	Thr	Leu	Gln	Gly	Asp	Phe	Lys	Asn	Arg	Ala	Glu	Met	Ile
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Asp	Phe	Asn	Ile	Arg	Ile	Lys	Asn	Val	Thr	Arg	Ser	Asp	Ala	Gly
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Lys	Tyr	Arg	Cys	Glu	Val	Ser	Ala	Pro	Ser	Glu	Gln	Gly	Gln	Asn
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				230					235					240	
Ile	Ala	Ala	Val	Val	Val	Val	Ala	Leu	Val	Ile	Ser	Val	Cys	Gly	
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				275					280					285	
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				290					295					300	
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<400> 10

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Tyr	Thr	Ala	Gln	Ser	Asp	Val	Gln	Val	Pro	Glu	Asn	Glu	Ser	Ile	
				35					40					45	
Lys	Leu	Thr	Cys	Thr	Tyr	Ser	Gly	Phe	Ser	Ser	Pro	Arg	Val	Glu	
				50					55					60	
Trp	Lys	Phe	Val	Gln	Gly	Ser	Thr	Thr	Ala	Leu	Val	Cys	Tyr	Asn	
				65					70					75	
Ser	Gln	Ile	Thr	Ala	Pro	Tyr	Ala	Asp	Arg	Val	Thr	Phe	Ser	Ser	
				80					85					90	
Ser	Gly	Ile	Thr	Phe	Ser	Ser	Val	Thr	Arg	Lys	Asp	Asn	Gly	Glu	
				95					100					105	
Tyr	Thr	Cys	Met	Val	Ser	Glu	Glu	Gly	Gly	Gln	Asn	Tyr	Gly	Glu	
				110					115					120	

Val	Ser	Ile	His	Leu	Thr	Val	Leu	Val	Pro	Pro	Ser	Lys	Pro	Thr	125	130	135
Ile	Ser	Val	Pro	Ser	Ser	Val	Thr	Ile	Gly	Asn	Arg	Ala	Val	Leu	140	145	150
Thr	Cys	Ser	Glu	His	Asp	Gly	Ser	Pro	Pro	Ser	Glu	Tyr	Ser	Trp	155	160	165
Phe	Lys	Asp	Gly	Ile	Ser	Met	Leu	Thr	Ala	Asp	Ala	Lys	Lys	Thr	170	175	180
Arg	Ala	Phe	Met	Asn	Ser	Ser	Phe	Thr	Ile	Asp	Pro	Lys	Ser	Gly	185	190	195
Asp	Leu	Ile	Phe	Asp	Pro	Val	Thr	Ala	Phe	Asp	Ser	Gly	Glu	Tyr	200	205	210
Tyr	Cys	Gln	Ala	Gln	Asn	Gly	Tyr	Gly	Thr	Ala	Met	Arg	Ser	Glu	215	220	225
Ala	Ala	His	Met	Asp	Ala	Val	Glu	Leu	Asn	Val	Gly	Gly	Ile	Val	230	235	240
Ala	Ala	Val	Leu	Val	Thr	Leu	Ile	Leu	Leu	Gly	Leu	Leu	Ile	Phe	245	250	255
Gly	Val	Trp	Phe	Ala	Tyr	Ser	Arg	Gly	Tyr	Phe	Glu	Thr	Thr	Lys	260	265	270
Lys	Gly	Thr	Ala	Pro	Gly	Lys	Lys	Val	Ile	Tyr	Ser	Gln	Pro	Ser	275	280	285
Thr	Arg	Ser	Glu	Gly	Glu	Phe	Lys	Gln	Thr	Ser	Ser	Phe	Leu	Val	290	295	300

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 <212> DNA
 <213> Homo sapiens

<400> 11
 cccacgcgtc cgcccacgcg tccgcccacg ggtcgcgcca cgcgctccggg 50
 ccaccagaag tttgagcctc tttggttagca ggaggctgga agaaaggaca 100
 gaagtagctc tggctgtgat ggggatctta ctgggcctgc tactcctggg 150
 gcacctaaaca gtggacactt atggccgtcc catcctggaa gtgccagaga 200
 gtgtaacagg accttggaag ggggatgtga atcttcctg cacctatgac 250
 ccctgcaag gctacacca agtcttggtg aagtggctgg tacaacgtgg 300
 ctcagaccct gtcaccatct ttctacgtga ctcttctgga gaccatatcc 350
 agcaggcaaa gtaccagggc cgctgcatg tgagccacaa ggttccagga 400
 gatgtatccc tccaattgag caccctggag atggatgacc ggagccacta 450
 cacgtgtgaa gtcacctggc agactcctga tggcaaccaa gtcgtgagag 500
 ataagattac tgagctccgt gtccagaaac tctctgtctc caagcccaca 550

gtgacaactg gcagcgggta tggcttcacg gtgccccagg gaatgaggat 600
 tagccttcaa tgccaggctc ggggttctcc tcccatcagt tatatttggt 650
 ataagcaaca gactaataac caggaacca tcaaagtagc aaccctaagt 700
 accttactct tcaagcctgc ggtgatagcc gactcaggct cctatttctg 750
 cactgccaaag ggccagggtg gctctgagca gcacagcgac attgtgaagt 800
 ttgtgggtcaa agactcctca aagctactca agaccaagac tgaggcacct 850
 acaaccatga cataccccct gaaagcaaca tctacagtga agcagtcctg 900
 ggactggacc actgacatgg atggctacct tggagagacc agtgctgggc 950
 caggaaagag cctgcctgtc tttgccatca tctcatcat ctcttgtgc 1000
 tgtatggtgg tttttaccat ggcctatata atgctctgtc ggaagacata 1050
 ccaacaagag catgtctacg aagcagccag gtaagaaagt ctctcctctt 1100
 ccatttttga ccccgctcct gccctcaatt ttgattactg gcaggaaatg 1150
 tggaggaagg ggggtgtggc acagacccaa tctaaggcc ggaggccttc 1200
 agggctcagga catagctgcc ttccctctct caggcacctt ctgaggttgt 1250
 tttggccctc tgaacacaaa ggataattta gatccatctg ccttctgctt 1300
 ccagaatccc tgggtggtag gatcctgata attaatggc aagaattgag 1350
 gcagaagggg gggaaaccag gaccacagcc ccaagtcctt tcttatgggt 1400
 ggtgggctct tgggcatag ggcacatgcc agagaggcca acgactctgg 1450
 agaaaccatg aggggtggcca tcttcgcaag tggctgctcc agtgatgagc 1500
 caacttccca gaatctgggc aacaactact ctgatgagcc ctgcatagga 1550
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 ggacacagtt cctctggatt atgagtttct ggccactgag ggcaaaagt 1650
 tctgttaaaa atgccccatt aggccaggat ctgctgacat aattgcctag 1700
 tcagtccttg ccttctgcat ggccttcttc cctgctacct ctcttctgg 1750
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 ttggctctgg gcccttctag tatctctgcc gggggcttct ggtactcctc 1900
 tctaaatacc agagggaaga tgcccatagc actaggactt ggtcatcatg 1950
 cctacagaca ctattcaact ttggcatctt gccaccagaa gacccgaggg 2000
 aggctcagct ctgccagctc agaggaccag ctatatccag gatcatttct 2050
 ctttcttcag ggccagacag cttttaattg aaattgttat ttcacaggcc 2100
 agggttcagt tctgtctctc cactataagt ctaatgttct gactctctcc 2150

tgggtgctcaa taaatatcta atcataacag c 2181
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 <400> 12
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 <210> 13
 <211> 50
 <212> DNA
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 <400> 13
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 <210> 14
 <211> 20
 <212> DNA
 <213> artificial sequence
 <220>
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 <400> 14
 acacctgggtt caaagatggg 20
 <210> 15
 <211> 24
 <212> DNA
 <213> artificial sequence
 <220>
 <223> artificial sequence
 <400> 15
 taggaagagt tgctgaaggc acgg 24
 <210> 16
 <211> 20
 <212> DNA
 <213> artificial sequence
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 <223> artificial sequence
 <400> 16
 ttgccttact caggtgctac 20
 <210> 17
 <211> 20
 <212> DNA
 <213> artificial sequence
 <220>

<223> artificial sequence

<400> 17

actcagcagt ggtaggaaag 20

<210> 18

<211> 24

<212> DNA

<213> artificial sequence

<220>

<223> artificial sequence

<400> 18

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<210> 19

<211> 21

<212> DNA

<213> artificial sequence

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<223> artificial sequence

<400> 19

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<210> 20

<211> 24

<212> DNA

<213> artificial sequence

<220>

<223> artificial sequence

<400> 20

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<210> 21

<211> 24

<212> DNA

<213> artificial sequence

<220>

<223> artificial sequence

<400> 21

agccaaatcc agcagctggc ttac 24

<210> 22

<211> 50

<212> DNA

<213> artificial sequence

<220>

<223> artificial sequence

<400> 22

tggatgaccg gagccactac acgtgtgaag tcacctggca gactcctgat 50

<210> 23

<211> 260

<212> PRT

<213> Homo sapiens

<400> 23

Leu	Ala	Leu	Gly	Ser	Val	Thr	Val	His	Ser	Ser	Glu	Pro	Glu	Val	
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Arg	Ile	Pro	Glu	Asn	Asn	Pro	Val	Lys	Leu	Ser	Cys	Ala	Tyr	Ser	
				20					25					30	
Gly	Phe	Ser	Ser	Pro	Arg	Val	Glu	Trp	Lys	Phe	Asp	Gln	Gly	Asp	
				35					40					45	
Thr	Thr	Arg	Leu	Val	Cys	Tyr	Asn	Asn	Lys	Ile	Thr	Ala	Ser	Tyr	
				50					55					60	
Glu	Asp	Arg	Val	Thr	Phe	Leu	Pro	Thr	Gly	Ile	Thr	Phe	Lys	Ser	
				65					70					75	
Val	Thr	Arg	Glu	Asp	Thr	Gly	Thr	Tyr	Thr	Cys	Met	Val	Ser	Glu	
				80					85					90	
Glu	Gly	Gly	Asn	Ser	Tyr	Gly	Glu	Val	Lys	Val	Lys	Leu	Ile	Val	
				95					100					105	
Leu	Val	Pro	Pro	Ser	Lys	Pro	Thr	Val	Asn	Ile	Pro	Ser	Ser	Ala	
				110					115					120	
Thr	Ile	Gly	Asn	Arg	Ala	Val	Leu	Thr	Cys	Ser	Glu	Gln	Asp	Gly	
				125					130					135	
Ser	Pro	Pro	Ser	Glu	Tyr	Thr	Trp	Phe	Lys	Asp	Gly	Ile	Val	Met	
				140					145					150	
Pro	Thr	Asn	Pro	Lys	Ser	Thr	Arg	Ala	Phe	Ser	Asn	Ser	Ser	Tyr	
				155					160					165	
Val	Leu	Asn	Pro	Thr	Thr	Gly	Glu	Leu	Val	Phe	Asp	Pro	Leu	Ser	
				170					175					180	
Ala	Ser	Asp	Thr	Gly	Glu	Tyr	Ser	Cys	Glu	Ala	Arg	Asn	Gly	Tyr	
				185					190					195	
Gly	Thr	Pro	Met	Thr	Ser	Asn	Ala	Val	Arg	Met	Glu	Ala	Val	Glu	
				200					205					210	
Arg	Asn	Val	Gly	Val	Ile	Val	Ala	Ala	Val	Leu	Val	Thr	Leu	Ile	
				215					220					225	
Leu	Leu	Gly	Ile	Leu	Val	Phe	Gly	Ile	Trp	Phe	Ala	Tyr	Ser	Arg	
				230					235					240	
Gly	His	Phe	Asp	Arg	Thr	Lys	Lys	Gly	Thr	Ser	Ser	Lys	Lys	Val	
				245					250					255	
Ile	Tyr	Ser	Gln	Pro											
				260											

<210> 24

<211> 270

<212> PRT

<213> Homo sapiens

<400> 24

Val	Arg	Val	Thr	Val	Asp	Ala	Ile	Ser	Val	Glu	Thr	Pro	Gln	Asp	
1				5					10					15	
Val	Leu	Arg	Ala	Ser	Gln	Gly	Lys	Ser	Val	Thr	Leu	Pro	Cys	Thr	
				20					25					30	
Tyr	His	Thr	Ser	Thr	Ser	Ser	Arg	Glu	Gly	Leu	Ile	Gln	Trp	Asp	
				35					40					45	
Lys	Leu	Leu	Leu	Thr	His	Thr	Glu	Arg	Val	Val	Ile	Trp	Pro	Phe	
				50					55					60	
Ser	Asn	Lys	Asn	Tyr	Ile	His	Gly	Glu	Leu	Tyr	Lys	Asn	Arg	Val	
				65					70					75	
Ser	Ile	Ser	Asn	Asn	Ala	Glu	Gln	Ser	Asp	Ala	Ser	Ile	Thr	Ile	
				80					85					90	
Asp	Gln	Leu	Thr	Met	Ala	Asp	Asn	Gly	Thr	Tyr	Glu	Cys	Ser	Val	
				95					100					105	
Ser	Leu	Met	Ser	Asp	Leu	Glu	Gly	Asn	Thr	Lys	Ser	Arg	Val	Arg	
				110					115					120	
Leu	Leu	Val	Leu	Val	Pro	Pro	Ser	Lys	Pro	Glu	Cys	Gly	Ile	Glu	
				125					130					135	
Gly	Glu	Thr	Ile	Ile	Gly	Asn	Asn	Ile	Gln	Leu	Thr	Cys	Gln	Ser	
				140					145					150	
Lys	Glu	Gly	Ser	Pro	Thr	Pro	Gln	Tyr	Ser	Trp	Lys	Arg	Tyr	Asn	
				155					160					165	
Ile	Leu	Asn	Gln	Glu	Gln	Pro	Leu	Ala	Gln	Pro	Ala	Ser	Gly	Gln	
				170					175					180	
Pro	Val	Ser	Leu	Lys	Asn	Ile	Ser	Thr	Asp	Thr	Ser	Gly	Tyr	Tyr	
				185					190					195	
Ile	Cys	Thr	Ser	Ser	Asn	Glu	Glu	Gly	Thr	Gln	Phe	Cys	Asn	Ile	
				200					205					210	
Thr	Val	Ala	Val	Arg	Ser	Pro	Ser	Met	Asn	Val	Ala	Leu	Tyr	Val	
				215					220					225	
Gly	Ile	Ala	Val	Gly	Val	Val	Ala	Ala	Leu	Ile	Ile	Ile	Gly	Ile	
				230					235					240	
Ile	Ile	Tyr	Cys	Cys	Cys	Cys	Arg	Gly	Lys	Asp	Asp	Asn	Thr	Glu	
				245					250					255	
Asp	Lys	Glu	Asp	Ala	Arg	Pro	Asn	Arg	Glu	Ala	Tyr	Glu	Glu	Pro	
				260					265					270	

<210> 25
 <211> 263
 <212> PRT
 <213> Homo sapiens

<400> 25
 Leu Cys Ser Leu Ala Leu Gly Ser Val Thr Val His Ser Ser Glu
 1 5 10 15

Pro	Glu	Val	Arg	Ile	Pro	Glu	Asn	Asn	Pro	Val	Lys	Leu	Ser	Cys	
				20					25					30	
Ala	Tyr	Ser	Gly	Phe	Ser	Ser	Pro	Arg	Val	Glu	Trp	Lys	Phe	Asp	
				35					40					45	
Gln	Gly	Asp	Thr	Thr	Arg	Leu	Val	Cys	Tyr	Asn	Asn	Lys	Ile	Thr	
				50					55					60	
Ala	Ser	Tyr	Glu	Asp	Arg	Val	Thr	Phe	Leu	Pro	Thr	Gly	Ile	Thr	
				65					70					75	
Phe	Lys	Ser	Val	Thr	Arg	Glu	Asp	Thr	Gly	Thr	Tyr	Thr	Cys	Met	
				80					85					90	
Val	Ser	Glu	Glu	Gly	Gly	Asn	Ser	Tyr	Gly	Glu	Val	Lys	Val	Lys	
				95					100					105	
Leu	Ile	Val	Leu	Val	Pro	Pro	Ser	Lys	Pro	Thr	Val	Asn	Ile	Pro	
				110					115					120	
Ser	Ser	Ala	Thr	Ile	Gly	Asn	Arg	Ala	Val	Leu	Thr	Cys	Ser	Glu	
				125					130					135	
Gln	Asp	Gly	Ser	Pro	Pro	Ser	Glu	Tyr	Thr	Trp	Phe	Lys	Asp	Gly	
				140					145					150	
Ile	Val	Met	Pro	Thr	Asn	Pro	Lys	Ser	Thr	Arg	Ala	Phe	Ser	Asn	
				155					160					165	
Ser	Ser	Tyr	Val	Leu	Asn	Pro	Thr	Thr	Gly	Glu	Leu	Val	Phe	Asp	
				170					175					180	
Pro	Leu	Ser	Ala	Ser	Asp	Thr	Gly	Glu	Tyr	Ser	Cys	Glu	Ala	Arg	
				185					190					195	
Asn	Gly	Tyr	Gly	Thr	Pro	Met	Thr	Ser	Asn	Ala	Val	Arg	Met	Glu	
				200					205					210	
Ala	Val	Glu	Arg	Asn	Val	Gly	Val	Ile	Val	Ala	Ala	Val	Leu	Val	
				215					220					225	
Thr	Leu	Ile	Leu	Leu	Gly	Ile	Leu	Val	Phe	Gly	Ile	Trp	Phe	Ala	
				230					235					240	
Tyr	Ser	Arg	Gly	His	Phe	Asp	Arg	Thr	Lys	Lys	Gly	Thr	Ser	Ser	
				245					250					255	
Lys	Lys	Val	Ile	Tyr	Ser	Gln	Pro								
				260											

<210> 26

<211> 273

<212> PRT

<213> Homo sapiens

<400> 26

Leu	Cys	Ala	Val	Arg	Val	Thr	Val	Asp	Ala	Ile	Ser	Val	Glu	Thr	
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Pro	Gln	Asp	Val	Leu	Arg	Ala	Ser	Gln	Gly	Lys	Ser	Val	Thr	Leu	
				20					25					30	

Pro	Cys	Thr	Tyr	His	Thr	Ser	Thr	Ser	Ser	Arg	Glu	Gly	Leu	Ile	
				35					40					45	
Gln	Trp	Asp	Lys	Leu	Leu	Leu	Thr	His	Thr	Glu	Arg	Val	Val	Ile	
				50					55					60	
Trp	Pro	Phe	Ser	Asn	Lys	Asn	Tyr	Ile	His	Gly	Glu	Leu	Tyr	Lys	
				65					70					75	
Asn	Arg	Val	Ser	Ile	Ser	Asn	Asn	Ala	Glu	Gln	Ser	Asp	Ala	Ser	
				80					85					90	
Ile	Thr	Ile	Asp	Gln	Leu	Thr	Met	Ala	Asp	Asn	Gly	Thr	Tyr	Glu	
				95					100					105	
Cys	Ser	Val	Ser	Leu	Met	Ser	Asp	Leu	Glu	Gly	Asn	Thr	Lys	Ser	
				110					115					120	
Arg	Val	Arg	Leu	Leu	Val	Leu	Val	Pro	Pro	Ser	Lys	Pro	Glu	Cys	
				125					130					135	
Gly	Ile	Glu	Gly	Glu	Thr	Ile	Ile	Gly	Asn	Asn	Ile	Gln	Leu	Thr	
				140					145					150	
Cys	Gln	Ser	Lys	Glu	Gly	Ser	Pro	Thr	Pro	Gln	Tyr	Ser	Trp	Lys	
				155					160					165	
Arg	Tyr	Asn	Ile	Leu	Asn	Gln	Glu	Gln	Pro	Leu	Ala	Gln	Pro	Ala	
				170					175					180	
Ser	Gly	Gln	Pro	Val	Ser	Leu	Lys	Asn	Ile	Ser	Thr	Asp	Thr	Ser	
				185					190					195	
Gly	Tyr	Tyr	Ile	Cys	Thr	Ser	Ser	Asn	Glu	Glu	Gly	Thr	Gln	Phe	
				200					205					210	
Cys	Asn	Ile	Thr	Val	Ala	Val	Arg	Ser	Pro	Ser	Met	Asn	Val	Ala	
				215					220					225	
Leu	Tyr	Val	Gly	Ile	Ala	Val	Gly	Val	Val	Ala	Ala	Leu	Ile	Ile	
				230					235					240	
Ile	Gly	Ile	Ile	Ile	Tyr	Cys	Cys	Cys	Cys	Arg	Gly	Lys	Asp	Asp	
				245					250					255	
Asn	Thr	Glu	Asp	Lys	Glu	Asp	Ala	Arg	Pro	Asn	Arg	Glu	Ala	Tyr	
				260					265					270	

Glu Glu Pro

<210> 27

<211> 413

<212> DNA

<213> artificial sequence

<220>

<223> artificial sequence

<400> 27

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ttagtggctc cagcagttcc atcatgtgaa gtaccctctt ctgctctgag 150
 tggaactgtg gtagagctac gatgtcaaga caaagaaggg aatccagctc 200
 ctgaatacac atgggtttaag gatggcatcc gtttgctaga aaatcccaga 250
 cttggctccc aaagcaccaa cagctcatac acaatgaata caaaaactgg 300
 aactctgcaa tttaatactg tttccaaact ggacactgga gaatattcct 350
 gtgaagcccg caattctgtt ggatatcgca ggtgtcctgg ggaaacgaat 400
 gcaagtagat gat 413

<210> 28
 <211> 22
 <212> DNA
 <213> artificial sequence

<220>
 <223> artificial sequence

<400> 28
 atcgttgtga agttagtgcc cc 22

<210> 29
 <211> 23
 <212> DNA
 <213> artificial sequence

<220>
 <223> artificial sequence

<400> 29
 acctgcgata tccaacagaa ttg 23

<210> 30
 <211> 48
 <212> DNA
 <213> artificial sequence

<220>
 <223> artificial sequence

<400> 30
 ggaagaggat acagtcactc tggaagtatt agtggctcca gcagttcc 48